SYLLABUS and SCHEDULE
BIOLOGY 130

Introduction to Plant Biology
Fall Semester 2018
Lecture Section 5

Course description: Biology 130 is a five-credit lecture and lab course that emphasizes the diversity, life cycles, structure, and function of plants. This biology course also introduces you to bacteria, fungi, and algae, and their relationships with plants.

Instructor:	Dr. Terese Barta
Office:	CBB 346
Phone:	715-346-4241
Email:	tbarta@uwsp.edu

Lecture	MW 9:30-10:45	TNR 170
Lab section 1:	TR 12:00-1:50	CBB 176
Lab section 2:	TR 2:00-3:50	CBB 176
Lab section 3:	TR 9:00-10:50	CBB 170

Open Labs: MR 6:00-8:00 (self-guided; instructor not present)

Office hours: Mondays 1:00-4:00 and by appointment

Textbook: *Introductory Plant Biology*, 14th ed. by K.R. Stern, 2018. McGraw-Hill
(Required; obtain from DUC text rental)

Lab Manual: *Essentials of Botany*, 7th edition, 2018 edition.
(Also required; purchase in DUC Bookstore; needed by 9/6)
Do NOT use a used copy.

Supplements: *Photo Atlas for Botany*, by Perry and Morton. New and used copies available from several sources, including the DUC bookstore or sellers on Amazon.

Websites: Images for labs can be found at:
https://www4.uwsp.edu/biology/courses/botlab/default.htm
Images for the plant identification exam:
https://www4.uwsp.edu/biology/courses/plantID/index.htm

Other: Peer tutoring will be available. Watch your email for specific information.
A D2L course site will be used in this course.

General Learning Objectives	By the end of this course, you should be able to: • Explain the basic features of cells, in particular, the unique features of plant cells. • Diagram the basic morphology and anatomy of a typical plant. • Give examples of how plants develop and grow regulate in response to their environment. • Explain the process and components of photosynthesis. • Explain how cells divide, how they express genetic information, and the basis of inheritance in whole organisms. • Describe the key features of plants, fungi, algae, and bacteria as unique types of organisms. • Appreciate the importance of plants and plant products to humans.
Attendance Policies	It is expected that you will attend and be on time for all the lecture and laboratory sessions. Attendance in lecture will improve your performance on exams. Although no formal attendance taking mechanism will be used in lecture, there will be unannounced quizzes that are worth points, and for which there are no make ups allowed. If you miss lecture for any reason, you will not be able to make up those points. Because of tight room scheduling and the preparation time involved in setting up labs, there will be **no make-ups for missed labs** even if you are sick**.** If you know you must be absent, please check with me ahead of time about the possibility of sitting in during another lab section. If you miss a lab, you will be responsible for getting the material on your own from open labs. Absences due to participation in academically sanctioned events such as athletic events, academic conferences, or music competitions will be considered excused absences if written documentation is provided in advance.
Student Behavior Expectations	In order to keep the course running smoothly, and to ensure that all students have a good learning environment, I have the following expectations of students in this course: • Arrive on time, and take your seat promptly, so that the lecture can begin at 9:30. It is rude and disruptive to others to arrive late. • Please silence your phones and keep them put away during class unless needed for an in-class activity. • Please keep computers/tablets put away during lecture. • Please refrain from talking or having side conversations during lecture, unless part of an organized activity. • If you have a question during lecture, please raise your hand and wait to be called on. Students who are disruptive may be asked to leave the lecture. Students who are exhibit a continued pattern of disruptive behavior may be referred to the Dean of Students.
Exams	The following policies will be enforced during exams. Students must sit in alternate seats. Students must stow backpacks, books, and other personal items in the front of the room or side aisles. All materials must be put away before any exams will be distributed. Students must refrain from wearing hats, hoodie sweatshirts with pockets, and bringing water bottles or other beverages. Students may not leave the lecture hall until their exam is turned in (be sure to make use of the rest room before coming in to the exam). Students with wandering eyes will be asked to change their seat.

Make-up exams and quizzes	Attendance at exams is required. Make-up lecture exams will be permitted ONLY for unavoidable emergencies provided that you have notified me in advance. If you cannot call, please have someone else call as soon as possible. Acceptable excuses for missing an exam include: • personal injury, dental emergency, extreme illness or hospitalization, or that of an immediate family member for which you are responsible • death in the immediate family • verifiable court appearance or jury duty Oversleeping is not a valid excuse for missing class, a lab test, or any exam. Neither is purchase of a plane ticket. Please do not ask me to allow you to take an exam early so that you can leave early for a trip or family vacation. In general, the reasons that you miss an exam should be the same as those for which you would miss a job interview or your best friend's wedding. Make-up exams are difficult to administer, and students usually do poorly on them. Make-up exam format may differ from the original exam. Because of this, it is best to avoid make up exams if you can. However, if you have a valid reason, you can take a make-up exam. In order to qualify for a make-up exam, you must provide a written, verifiable excuse from an authorized party (doctor, dentist, minister, etc.) within five school days of the missed exam. This excuse should clearly articulate that you were UNABLE to make it to class for the exam, including a timetable for restriction from work or school. All make-ups for Exams I and II will be held in CBB 176 at 4 pm on Friday, December 7. If you have an unavoidable conflict with this time, please inform me in advance so that alternative arrangements can be made. As with the original exams, exemptions will made only in extreme cases. (Just because you planned to travel home early on Friday for the weekend does not constitute an acceptable "conflict" with the make-up time.)
Late policies	Late assignments will receive a 10% point reduction per day unless a written excuse (and a valid reason) is provided.
Academic Misconduct	You are encouraged to work and study with each other in order to get the most out of the course. Lab experiments also involve working in groups. However, you are expected to work independently on assignments, quizzes, and examinations. All acts of dishonesty in any work constitute academic misconduct. This includes, but is not limited to, cheating, plagiarism, fabrication of information, misrepresentations of a student's academic performance, and abetting any of the above. This includes submitting papers or reports that reflect the work of a group rather than the work of an individual. (Be very careful about this. Although you may work in groups in lab, the written work you submit to me MUST BE YOUR OWN INDEPENDENT COMPOSITION.) I will be using Turnitin.com to check for originality. The Academic Standards and Disciplinary Procedures of the University of Wisconsin will be followed in the event that academic misconduct occurs. Students should refer to Dean of Students website for more information (http://www.uwsp.edu/dos/Pages/Academic-Misconduct.aspx).
Safe Learning Environment	UWSP values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to succeed, we have developed a set of expectations for all students and instructors. This set of expectations is known as the Rights and Responsibilities document, and it is intended to help establish a positive living and learning environment at UWSP. More information is available at: http://www.uwsp.edu/stuaffairs/Pages/rightsandresponsibilities.aspx.

Lab Safety	You will be asked to read and sign a safety agreement the first day of lab. Your signature indicates your willingness to abide by the safety policies of this university. Please be aware that no eating or drinking is allowed in the lab. Also, students must wear closed-toed/closed-heeled shoes in the lab. Even in warm weather, students should also wear clothing that covers the legs to the ankles (unintentional spillage of cultures and chemicals can and does occasionally happen).
General Safety	See the UWSP Emergency Management Plan at www.uwsp.edu/rmgt for details on how to respond to emergencies including fire, weather, or active shooter situations. Sign up for Pointer Alerts to receive information about active credible campus emergency situations that pose a threat and require immediate action. Sign up on the Risk Management page.
Disability and Assistive Technology Center	The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for student with disabilities. For more information about UWSP's policies, visit: http://www.uasp.edu/stuaffairs/Documents/RightsRespns/ADA/rightsADAPolicyInfo.pdf. If you are registered with the Disability and Assistive Technology Center, please contact me as soon as possible to plan any course accommodations that may be necessary. If you have a disability but have not contacted the DATC, please call 715-346-3365 or visit 609 LRC to register for services.
Personal Emergencies	If you anticipate receiving an important call (for reasons like family health issues), please notify me before class. If your family needs to contact you during class in an unanticipated emergency, they should call the biology office at 715-346-4524 or Campus Protective Services, 715-346-3456 (especially after hours).

GRADING

The overarching principle in my grading philosophy is rewarding student learning, even if it occurs on a schedule that is different from my expectations. Therefore, there are elements built into this course that allow you to improve your grade.

Your grade is based on the following:

1) **Lecture exams** will cover lecture material and assigned readings. They will contain a combination of multiple choice, true-false, matching, and short answer questions. There are two unit exams, each worth 75 points, and covering about 1/3 of lecture material. The first two unit exams will take place during lecture (see schedule for dates). The final exam will consist of the third unit exam (75 points) and a comprehensive final ("Final Redemption") also worth 75 points.

   Sometimes, students get off to a rocky start. It's important to identify what is and is not working for you and to make corrections to your study habits if your performance indicates that you're not succeeding. To motivate you to do that, I will award bonus points for improvements in exam performance from Exam I to Exam II, and from Exam II to the final exam as long as both exams are completed.

   a) For improvements greater than 5% of the total exam score, I will award additional bonus points totaling 50% of the difference between the two scores. For example, if you score 50/75 (67%) on Exam I and 60/75 (80%) on Exam II (13% improvement), you will receive 5 bonus points.

b) For any improvement equal to or greater than 2 points, but less than 5% of the difference, you will receive 2 bonus points.
c) If a student's score on the final exam is higher than their mean exam/bonus point score on exams I & II, the final exam score will replace the combined scores of exam I & II scores (hence redemption!).

2) **In-Class Quizzes**. Quizzes will be given during of some lectures on material from the previous and/or current lectures and/or reading. Quizzes will not be announced. In order to do well on these quizzes, it is essential that you STUDY EVERY DAY. You are also expected to read the corresponding text chapter before coming to class, with an attempt to understand the material. Each quiz will be worth 3 or 4 points. Students absent for any reason will NOT be allowed to make up these points. There will be more than 45 points possible but the maximum possible score is 45 points. However, this will allow you some flexibility if you score less than a perfect score on some quizzes or have to miss one.

3) **Lab Quizzes**. There will be nine lab quizzes, each worth 20 points. Each quiz covers 2 or 3 labs. Again, it is important to keep up lab material. The eight highest scores will count toward your grade. If you have to miss a quiz for any reason, it will count as your dropped score. Consult the lab schedule for your section for specific dates of quizzes.

4) **Lab Reports**. For some labs in which experiments are conducted, lab reports will be required with some post-lab questions. Each lab report will be collected and graded, along with the post-lab questions. The lab reports will consist of an experimental question, a hypothesis being tested, a data presented in graphical format (done in Excel and pasted into a Word document). Answers for post-lab questions must be typed (Times, 12 point, with 1 inch margins) and submitted in the appropriate D2L dropbox folder no later than one week after the lab. You do not need to turn in a hard copy. The total score for each lab report (except the trichome report) is 15 total points. In general, reports are graded for completeness and thoughtfulness of responses. In order to receive credit for the lab report, you must attend the lab. All late lab reports will receive a 10% per day deduction, unless a valid written excuse is provided. Because of logistics, there are no make-ups for missed labs, even if you are sick.

5) **Common Wisconsin Plant Identification Exam.** The 50-point exam will consist of fifty random specimens from the list provided (see lab manual). Two or three images will be shown of each plant. Specimens can be viewed in lab and/or at the following web site:
https://www4.uwsp.edu/biology/courses/plantID/index.htm
The exam will be given twice during the semester. You have your choice of which date to take it. The first offering is Wednesday evening, Dec. 5, 7 pm (room tba). Students in any section have this option. The second offering is December 13 (Thursday) during your assigned lab section (see lab schedule).

6) **Extra Credit.** Because interesting opportunities for learning sometimes come up (visiting lecturers, seminars, special academic events, etc.), I may announce small assignments that will yield up to 5 points of extra credit. No more than 10 points extra credit will be added to your grade. However, I do not offer extra credit assignments to individual students as a means of grade improvement. Everyone's grade should be based on the same criteria. If you're having trouble with the material you're already expected to do, you should not be asking for additional work (especially if you want something "easy" to replace something "hard."). It is better to concentrate on your study habits and test-taking skills rather than look for an "easy fix." If you

are having trouble in the course, don't wait-- GET HELP EARLY! Please come see me during office hours to discuss options for improving your grades other than doing "extra credit."

Points Breakdown

Lecture Exams	4@75 points	300 points
Lab Quizzes	highest 8 of 9@20 points	160 points
Lab Reports	highest 5 of 6@15 points	75 points
Trichome report	20 points	20 points
Plant ID Exam	50 points	50 points
Lecture quizzes/assignments	up to 45 points	45 points
Short assignments*	up to 2@5 points each	5-10 points
TOTAL		**655-660 points**

I reserve the right to add additional short assignments (worth up 5 points each) if they are to your advantage.

Grading Scale

> 92% = A	88-89.9% = B+	78-79.9% = C+	68-69.9% = D+
90-91.9% = A–	82-87.9% = B	72-77.9% = C	60-67.9% = D
	80-81.9% = B–	70-71.9% = C–	< 60 % = F

Your grade in this course is percentage of total points possible that you earn. I do not "curve" exams or grades because all students deserve to have achievement standards to that do not depend on the relative performance of classmates. Curving also forces students into certain grade categories (limiting who can get an "A" to only the top 7% of the class. (the next 24% must receive a "B," the next 38% must receive a "C," etc. This also means the bottom 7% must fail!) Curving also discourages cooperative learning. Finally, I cannot give you a higher grade if you tell me you "worked hard" because *I have no way to objectively measure anyone's perceived level of effort.* Please realize that **there are no additional points that can be added after the final exam**.

Lecture Schedule

Day/Date	Topic	Text Reading
W Sept. 5	Chemistry of Life	Chap. 2
M Sept 10	Intro to Cells; Plant Cell structure	Chap. 3 (30-44)
W Sept 13	Cell Cycle-Mitosis; Meristems	Chap. 3 (44-51)
M Sept 17	Plant Cell Types & Tissues	Chap. 4
W Sept 19	Herbaceous Stems	Chap. 6 (85-91; 96)
M Sept 24	Woody Stems & Specialized Stems	Chap 6 (91-96; 97-98)
W Sept 26	Roots; Plant Nutrition	Chap. 5
M Oct 1	Leaves	Chap. 7
W Oct 3	Water in Plants; Food Transport	Chap. 9
M Oct 8	**Exam I**	
W Oct 10	Intro to Metabolism: Enzymes, Energy Concepts	p. 25; p. 166
M Oct 15	Respiration & Fermentation	Chap 10 (180-185)
W Oct 17	Photosynthesis	Chap 10 (167-178)
M Oct 22	Photosynthesis, cont.; Photorespiration	Chap 10 (178-180)
W Oct 23	Plant Growth & Development: Plant Hormones	Chap. 11 (192-209)
M Oct 29	Growth & Development, cont. Phytochome & Photoperodism	Chap. 11 (209-212)
W Oct 31	Meiosis & Life Cycles	Chap. 12
M Nov 5	Mendelian Genetics	Chap. 13 (238-245)
W Nov 7	The Central Dogma	Chap 13 (227-237)
M Nov 12	**Exam II**	
W Nov 14	Intro to diversity; Bacteria, Archaea & non-cellular microbes	pp. 286-295; 300-306; 315-322
M Nov 19	Fungi & Lichens	Chap. 19; 347-351
W Nov 21	Algal Diversity	311-314; Chap. 18
M Dec 3	Intro to the Plant Kingdom; Bryophytes	Chap. 20
W Dec 5	Ferns & Fern Allies	Chap. 21
M Dec 10	Intro to Seed Plants; Gymnosperms	Chap. 22
W Dec. 12	Angiosperms	Chap. 23, Chap. 8

Note: **Exam III** will be given as part of the final exam.

Make up exams for Exams I and II will be at 4 pm, Friday Dec. 7 in lab room 176. No exceptions. Make up exam for Exam III/Final will be by appointment.

Final Exam date: Thursday, 12/20, 10:15AM-12:15 PM (TNR 170). Students with more than two exams may request that one exam be rescheduled. If you would like to reschedule the Biol 130 final exam, you must arrange this with me in advance and provide proof of having more than two other exams.

Lab Schedule

Lab 1 (T/R 12:00-1:50) & Lab 2 (T/R 2:00-3:50)

Room 176

Day/Date	Topic	Reading
T Sept 4	Intro to course; Scientific Method (lecture)	Text p. 7
R Sept 6	Intro to Microscopes; start trichome experiment	Lab manual p. 1; p. 157
T Sept 11	Microscope measurements; Oil immersion lens	Manual p. 11
R Sept 13	The Plant Cell	p. 17
T Sept 18	Mitosis, Asexual Reproduction **Quiz #1**	p. 29
R Sept 20	Meristems, Cell types, Herbaceous Stems	p. 35
T Sept 25	Woody Stems and Wood Anatomy **Quiz #2**	p. 45
R Sept 27	Modified Stems, Root Anatomy, Modified Roots	p. 59
T Oct 2	Leaf Anatomy, Modified Leaves **Quiz #3**	p. 71
R Oct 4	Plant Water Relations*	p. 87
T Oct 9	Enzymes & Digestion; Respiration* **Quiz #4**	p. 105
R Oct 11	Light and Photosynthesis*	p. 117
T Oct 16	Control of Plant Growth (set up experiments)	p. 127
R Oct 18	Gas Exchange and Photosynthesis*	p. 141
T Oct 23	Control of Plant Growth (observe experiments)*	p. 127
R Oct 25	Molecular Plant Genetics	p. 147
T Oct 30	Plant Genetics, Plant Breeding (finish trichome experiment*)	p. 155, p. 159
R Nov 1	Bacteria* **Quiz #5**	p. 167
T Nov 6	Fungi, part 1 (Chytrids, Zygote Fungi, Sac Fungi)	p. 177
R Nov 8	Fungi, part 2 (Club Fungi, Deuteromycetes, Fungal-like organisms)	p. 187
T Nov 13	Cyanobacteria; Eukaryotic Algae **Quiz #6**	p. 199
R Nov 15	Green Algae, Lichens	p. 209
T Nov 20	Bryophytes **Quiz #7**	p. 219
R Nov 22	THANKSGIVING: NO LAB	
T Nov 27	Ferns and Fern allies	p. 229
R Nov 29	Gymnosperms **Quiz #8**	p. 241
T Dec 4	Angiosperms and the Flower	p. 253
R Dec 6	Seeds and Fruits	p. 273
T Dec 11	**Quiz #9**	
R Dec 13	Plant ID exam (second offering)	

*Lab reports for these labs

Lab Schedule

Lab 3 (Tuesday/Thursdays 9-10:50)

Room 170

Day/Date	Topic	Reading
T Sept 4	Intro to course; Scientific Method (mandatory)	Text p. 7
R Sept 6	**No lab**	
T Sept 11	Intro to Microscopes; start trichome experiment	Lab manual p. 1; p. 157
R Sept 13	Microscope measurements; Oil immersion lens	Manual p. 11
T Sept 18	The Plant Cell	p. 17
R Sept 20	Mitosis, Asexual Reproduction **Quiz #1**	p. 29
T Sept 25	Meristems, Cell types, Herbaceous Stems	p. 35
R Sept 27	Woody Stems and Wood Anatomy **Quiz #2**	p. 45
T Oct 2	Modified Stems, Root Anatomy, Modified Roots	p. 59
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R Oct 25	Control of Plant Growth (observe experiments)*	p. 127
T Oct 30	Molecular Plant Genetics	p. 147
R Nov 1	Plant Genetics, Plant Breeding (finish trichome experiment*)	p. 155, p. 159
T Nov 6	Bacteria* **Quiz #5**	p. 167
R Nov 8	Fungi, part 1 (Chytrids, Zygote Fungi, Sac Fungi)	p. 177
T Nov 13	Fungi, part 2 (Club Fungi, Deuteromycetes, Fungal-like organisms)	p. 187
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T Nov 20	Green Algae, Lichens	p. 209
R Nov 22	THANKSGIVING: NO LAB	
T Nov 27	Bryophytes **Quiz #7**	p. 219
R Nov 29	Ferns and Fern allies	p. 229
T Dec 4	Gymnosperms **Quiz #8**	p. 241
R Dec 6	Angiosperms and the Flower	p. 253
T Dec 11	Seeds and Fruits	p. 273
R Dec 13	**Quiz #9;** Plant ID exam (second offering)	

*Lab reports for these labs